Abstract

A device for injecting preparations is controlled by a sealed circuit block (10) containing integrated sensors (17; 21, 22, 23 24) which monitors selected parameters. Two pairs of integrated Hall elements (21, 23 and 22, 24) monitors movements relative to a sine formed magnetic field presented along the perimeter of a multipoled magnetised ring (7). The Hall elements in each pair are displaced 180° magnetically relative to each other and the two pairs of Hall elements are displaced 90° magnetically from each other. Each pair is coupled to a differential amplifier (25, 26) to provide a cosine and a sine signal, respectively. The sine signal is divided by the cosine signal to create a tangent signal as an entrance to a table showing the angle of the movement.